



Record of Revision

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SOW Ref: 16.F.5.d

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FOX-3 Compliance Assessment

F3 Item	8BC-FOD1828	F3 Compliance Assessment
	Dewar Lakes (FOX-3 / F3)	
	General Conditions	
B1	The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:	Report provided annually
B1	a. A summary report of Water use and Waste disposal activities;	Report provided annually
B1	b. Quantity of Water (in cubic metres/day) obtained for domestic and other purposes from sources on, in or flowing through Crown Lands reporting period;	Report provided annually
B1	c. Quantity of Waste backhauled to approved facility for disposal;	Report provided annually
B1	d. A list of unauthorized discharges and a summary of follow-up actions taken;	Report provided annually
B1	e. Updates or revisions, if applicable, to the Spill Contingency Plan, and Operations and Maintenance Plans, as required by Part B Item 6 submitted in the form of an Addendum. Revisions may be subject to Board approval	Report provided annually
B1	f. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;	Report provided annually
B1	g. A summary of all information requested and results of the Monitoring Program;	Report provided annually
		Report provided annually
B1	h. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.	Report provided annually
B2	The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.	No changes were made to the site that required notification to the NWB.
B3	The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 1.	A flow meter was installed before the raw water tanks in 2009.
B4	The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.	Complete
B5	The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing	Complete
B6	The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.	Complete
B7	Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.	Complete
B7	Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.	Complete
B8	The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:	Complete
B8	See Table 6 - Contact Information	Complete
B8	See Table 6 - Contact Information	Complete
B9	The Licensee shall submit one (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.	Complete
B10	The Licensee shall ensure that all documents or correspondence submitted by the Licensee to the NWB are received and acknowledged by the Manager of Licensing	Complete
B11	This Licence is assignable as provided for in Section 44 of the Act.	Complete
B12	The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement	Complete



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Conditions Applying to Water Use		
C1	The Licensee shall obtain all water from Water Lake as shown on drawing No. HD67/2-8400-101. The volume of water for the purposes of this Licence shall not exceed one thousand four hundred and forty (1,440) cubic metres annually.	Complete, water use has been under the daily and annual limit.
C2	The use of Water from streams or any Water bodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing	Complete
C3	The withdrawal of Water from any stream shall not exceed ten (10) per cent of the low flow of that stream unless approved by the Board in writing.	Complete
C4	The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water of a sufficient volume that the source water body may be drawn down: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures	Complete
C5	The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.	Complete
C6	The Licensee shall not conduct any work below the ordinary High Water Mark of any water body unless approved by the Board in writing	Complete
C7	The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion	Complete
C8	Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.	Complete
Conditions Applying to Waste Disposal		
D1	The Board has approved the Plan entitled "Sewage Disposal Update: Sumps for Sewage Outfalls at CAM-3, FOX-3, DYE-M, and BAF-3", dated January 28, 2010.	Complete
D2	The Licensee shall submit within thirty (30) days of issuance of the Licence, an Addendum to the Plan referred to in Part D, Item 1, addressing the following issues:	Complete
D2	a. Sludge removal and characterization prior to disposal; and	Complete
D2	b. Operation and maintenance procedures for the Sewage Disposal Facility	Complete
D3	The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.	Complete
D4	The Licensee shall not practice on-site land filling of domestic Waste, unless otherwise approved by the Board in writing.	Complete
D5	The Licensee is authorized to dispose of all acceptable food Waste, paper Waste and untreated wood products in an incinerator.	Complete
D6	The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of Waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.	Complete
D7	The Licensee shall provide to the Board, documented authorization from all communities receiving waste from the Appurtenant Undertaking.	Complete
D8	The Licensee shall backhaul and dispose of all hazardous Wastes, Waste oil and noncombustible Waste generated through the course of the operation at a licensed Waste disposal site.	Complete
D9	The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.	Complete, records are included in the annual reports.
D10	The Licensee shall direct all Greywater to the Sewage Disposal Facility Sump. All Effluent shall be disposed to a Sump located at a distance of at least thirty-one (31) metres above the ordinary high water mark of any water body, at a site where direct flow into a water body is not possible and no additional impacts are created, unless otherwise approved by the Board in writing.	Complete



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D11	The Licensee may manage Toilet Wastes through the use of incineration toilets, and dispose of all resulting ash in the Landfill. In the event that the on-site population exceeds the capacity of the incineration toilet, the Licensee shall direct Toilet Wastes to the Sewage Disposal Facility.	Complete
		Complete
D12	All discharge of Effluent at Monitoring Station FOD-3 (Fuel storage area) shall not exceed the following Effluent quality limits:	Complete
		Complete
D13	If Effluent does not meet the Effluent quality limits of Part D, Item 12 above, it shall be considered hazardous waste and disposed off-site at an approved, licensed facility.	Complete
D14	The Licensee shall implement measures to prevent leachate or runoff from the Landfill from entering a water body such that no additional impacts are created, unless otherwise approved by the Board in writing.	Complete
D15	The Board has approved the Plan entitled, Landfarm Design and Management Plan North Warning Site: FOX-3, Dewar Lakes, Nunavut,	Complete
D16	The Licensee is authorized to treat petroleum hydrocarbon contaminated soil generated by two spills (originated from: a 3 mm crack in the apron-to-summit pipeline; and a helicopter crash which occurred on 13 May 2013) at the Landfarm Facility, or as otherwise approved by the Board. All soil must be treated to meet the appropriate post-treatment, land-use criteria outlined in the Canadian Council of Ministers of the Environment's (CCME) Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) and the Government of Nunavut – Department of Environment's Guidelines for <u>Contaminated Site Remediation (Revised 2009)</u> .	Complete
D17	All discharge of Effluent at Monitoring Station FOD-4 (Landfarm) shall not exceed the following Effluent quality limits:	No effluent discharged.
D17	See Table 1 to 3 - Criteria	Complete
D18	The Licensee shall treat, as required, the Effluent generated by the Landfarm Facility such that the Effluent discharged shall not exceed the Effluent quality limits established under Part D, Item 17, prior to Discharge into the receiving environment.	No effluent discharged.
D19	The Licensee shall confirm compliance with respective Effluent quality limits in Part D, Items 12 and 17, prior to Discharge.	No effluent discharged.
D20	The Licensee shall provide at least ten (10) days notice to the Inspector prior to any planned Discharges from any facilities. The notice shall include an estimated volume proposed for Discharge and the receiving location.	No effluent discharged.



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Conditions for Camps, Access Infrastructures and Operations		
E1	The Board has approved the Plan entitled "Operation and Maintenance (O&M) Plan for the Landfill and Handling of Solid Wastes at FOX-3", dated January 28, 2010.	Complete
E2	The Licensee shall submit within thirty (30) days of issuance of the Licence, an Addendum to the Plan referred to in Part E, Item 1, addressing ECCC's comments including the need for sampling of surface water and seepage areas to assess the landfill's performance and the potential for environmental risk.	Complete
E3	The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.	Complete
E4	The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.	Complete
E5	Stream crossing shall be a minimum of five hundred (500) meters from spawning areas	Complete
E6	With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty-one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the Water.	Complete
E7	The Licensee shall not mobilize heavy equipment or vehicles unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.	Complete



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Conditions Applying to Modifications		
F1	The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:	Complete
F1	a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;	Complete
F1	b. such Modifications do not place the Licensee in contravention of the Licence or the Act;	Complete
F1	c. such Modifications are consistent with the NIRB Screening Decision;	Complete
F1	d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and	Complete
F1	e. the Board has not rejected the proposed Modifications.	Complete
F2	Modifications for which all of the conditions referred to in Part G [F], Item 1 have not been met can be carried out only with written approval from the Board.	Complete
F3	The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.	Complete
Conditions Applying to Spill Contingency Planning		
G1	The Board has approved the Plan entitled "Spill Contingency Plan for the North Warning System" dated April 1, 2016 that was submitted as additional information with the Application.	Complete
G2	The Licensee shall submit within thirty (30) days of issuance of the Licence, an Addendum to the Plan referred to in Part G, Item 1, in the format set out by the Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93 addressing the location of spill kits so as to minimize spill response times.	Complete
G3	The Licensee shall prevent any chemicals, petroleum products or Wastes associated with the project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.	Complete
G4	The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.	Complete
G5	The Licensee shall maintain secondary containment for hazardous waste and fuel storage area.	Complete
G6	If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:	Complete
G6	a. Employ the approved Spill Contingency Plan;	Complete
G6	b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and	Complete
G6	c. For each spill occurrence, submit to the Inspector and the NWB, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.	Complete
G7	The Licensee shall, in addition to Part G, Item 6, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.	Complete
Conditions Applying to Abandonment and Restoration or Temporary Closing		
Omitted from this summary. To be considered upon the Abandonment of the NWS		n/a site is not closing



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Conditions Applying to the Monitoring Program		
I1	The Licensee shall maintain Monitoring Stations at the following locations:	Complete
I1	See Table 4 - Monitoring Locs	Complete
I2	The Licensee shall measure and record, in cubic metres, the daily quantities of water pumped from Monitoring Station FOD-1 for all purposes.	Complete
I3	The Licensee shall, prior to release of Effluent from the Bermed Fuel Storage Facilities at FOD-3 , sample for the purposes of verifying compliance with Effluent Quality Limits for the parameters listed under Part D Item 12.	Complete, water sampled using berm water test strips
I4	The Licensee shall, prior to release of Effluent from the Landfarm at FOD-4 , sample for the purposes of verifying compliance with Effluent Quality Limits for the parameters listed under Part D, Item 17.	Complete
I5	The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes are deposited.	Complete
I6	The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes.	Complete
I7	All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of <i>Standard Methods for the Examination of Water and Wastewater</i> , or by such other methods approved by the Analyst.	Complete
I8	All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.	Complete
I9	The Licensee shall within ninety (90) days following issuance of the Licence, submit to the Board for acceptance an updated Quality Assurance/Quality Control (QA/QC) Plan that addresses the comments received from ECCC including:	Complete
I9	Details of the proposed field analytical equipment to sample for the required parameters;	Complete
I9	Discussion of the accuracy (including Quality Assurance/ Quality Control) and detection limits of the field analytical equipment as compared to laboratory.	Complete
I10	The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.	Complete



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Discharge Criteria

Table 1 – Sewage discharge criteria

Parameter	Maximum Concentration of any Grab Sample
pH	6.0 to 9.0 (pH units)
Oil and Grease	No visible sheen
Biological Oxygen Demand	120 mg/L
Total Suspended Solids	180 mg/L
Faecal Coliforms	10,000 CFU/100 mL

Table 2 – Water from bermed fuel storage facilities discharge criteria

Parameter	Maximum Concentration of any Grab Sample (µg/L)
pH	6.0 to 9.5 (pH units)
Oil and Grease	5000
Benzene	370
Toluene	2
Ethylbenzene	90
Lead (dissolved)	50

Table 3 – Water from landfarm facilities discharge criteria

Parameter	Maximum Concentration of any Grab Sample (µg/L)
pH	6 to 9 (units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	50
Mercury (total)	0.6
Nickel (dissolved)	200
PCB (total)	1000
Phenols	20
Zinc (total)	500
Benzene	370
Toluene	2
Ethylbenzene	90



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Table 4 - Monitoring Locations

Table 1 – Sewage discharge criteria

Site	Station Number	Description	Status
FOX-3	FOD-1	Raw water supply from Water Lake prior to deposit in water tanks	Active (Volume cubic meters)
FOX-3	FOD-2	Final Discharge Point from the Sewage Disposal Facility	Discontinued
FOX-3	FOD-3	Final Discharge Point of the Bermed Fuel Storage Facility	Active (Quality)
FOX-3	FOD-4	Final Discharge Point from the Landfarm	Active (Quality)



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CIRNAC Water Licence Inspections, Comments, and Actions Taken

Table 5 – Record of CIRNAC Inspection Comments

Inspection Date	Site	Section	Condition	Comment	Action Taken to Address Comment
4-Sep-18	FOX-3	Spills	Sample Anaysis	Email WRO Monteith a copy of the sample analysis for the two spills prior to capping to verify if the spills were compliant. (spills of helicopter crash 2013 and fuel line failure, 2009).	Sample results sent to WRO Monteith in June 2019.



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Contact Information

Table 6 – Contact Information

Manager of Licensing	Inspector
Nunavut Water Board P.O. Box 119 Gjoa Haven, NU X0B 1J0 Telephone: (867) 360-6338 Fax: (867) 360-6369 Email: licensing@nwb-oen.ca	Manager of Field Operations, CIRNAC Nunavut District, Nunavut Region P.O. Box 100 Iqaluit, NU X0A 0H0 Telephone: (867) 975-4295 Fax: (867) 979-6445